

paint composition that is not water soluble. Col. 4, lines 6-17. The *Horowitz et al.* coating uses epoxy resins in a solvent base as opposed to that which is claimed in claim 31 wherein the prepolymer is water dispersible. *Horowitz et al.* does not teach each and every element as set forth in the objected to claims. Thus, Applicants respectfully contend that *Horowitz et al.* does not teach the water dispersible prepolymer as claimed in the present application.

### **35 U.S.C. § 103 Rejections**

Claims 1-3, 6-14, 31-33 and 35-39 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6, 414,048 to *Sanduja et al.* in view of U.S. Patent No. 6,245,267 to *Kreiser et al.* The PTO states that *Sanduja et al.* teaches all the limitations of the present claim set except for the low density polymeric foam substrate. The PTO states that *Kreiser et al.* teaches a low density foam and that one of ordinary skill in the art would have been motivated to employ the foam of *Kreiser et al.* as the substrate motivated by the desire to lower the thermal conductivity of the pipe and the cost of the production.

To support a conclusion of obviousness, "either the references must expressly or impliedly suggest the claimed combination or the [PTO] must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 U.S.P.Q. 972, 973 (Bd. Pat. App. & Int. 1985). In evaluating obviousness, the Federal Circuit made it very clear that one must look to see if "the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have had a reasonable likelihood of success viewed in light of the prior art." *In re Dow Chemical Co. v. American Cyanamid Co.*, 837 F.2d 469, 473, 5

U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988). Both the suggestion and the expectation of success must be founded in the prior art, not in the applicant's disclosure." *Id.*

Applicants respectfully assert that the combined art cited by the PTO neither teaches nor suggests combining a coating with a flexible low density polymeric foam. The PTO states that one would be motivated to combine the foam of *Kreiser et al.* and the coating of *Sanduja et al.* by the desire to lower the thermal conductivity of the pipe and the cost of the production. As previously stated, the references must expressly or impliedly suggest the claimed combination. *Sanduja et al.* is directed to a coating that may be printed upon and that can be applied to a heat shrinkable polyolefin tubing, plastic or wood. Col. 3, lines 45-46 and Col. 4, line 5. *Sanduja et al.* does not teach or suggest that there is a need to lower thermal conductivity of piping or that the shrinkable tubing discussed in *Sanduja et al.* may be used to insulate pipes.

*Kreiser et al.* discloses a low density foam, but does not teach or suggest a need for a coating applied to the foam. As disclosed in Applicants' application, a flexible coating applied to a low density foam adds toughness without sacrificing flexibility. *Sanduja et al.* does not teach or suggest that a coating can be applied to a flexible foam to impart toughness. One of ordinary skill in the art would not be motivated to combine that taught in *Kreiser et al.* with *Sanduja et al.* Neither reference teaches nor suggests the motivation for coating a low density foam.

Additionally, claims 4, 5 and 34 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over *Sanduja et al.* in view of *Kreiser et al.* as applied to claims 1 and 31 above, in view of U.S. Patent No. 6,110,525 to *Stoddard*. The PTO states that *Stoddard* teaches a coating composition comprising a latex of rubber particles. Thus, the PTO has held that it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the

latex and the coating composition motivated by the desire to increase the degree of flexibility of the coating.

Applicants respectfully assert that one of ordinary skill in the art would not combine that taught in *Stoddard* with that disclosed in the combined references. *Stoddard* teaches a peelable coating. Applicants teach and claim a flexible foam having a coating with excellent adhesion. A peelable coating would not provide the protection and toughness needed to protect the foam. Thus, one of ordinary skill in the art would not be motivated to combine a peelable coating with a flexible foam as claimed in the present application. The same is true regarding the objection to claim 34.

Furthermore, claims 1-3, 6-14, 32 and 33 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over *Horowitz et al.* in view of U.S. Patent No. 4,274,236 to *Kessler*. *Horowitz et al.* is said by the PTO to meet all the limitations as set forth in the claims except for a low density polymeric foam substrate. *Kessler* is said by the PTO to teach a polyvinyl chloride foam, and thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the Noryl foam by the PVC foam taught in *Kessler* as the substrate because PVC foam is inexpensive and commercially available.

The determination of obviousness under 35 U.S.C. § 103 is a legal conclusion based on factual evidence. *Burlington Indus., Inc. v. Quigg*, 822 F.2d 1581, 1584, 3 U.S.P.Q.2d 1436, 1439 (Fed. Cir. 1987). Initially, the PTO bears the burden of establishing the *prima facie* case of obviousness. *In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed Cir. 1984). To establish a *prima facie* case, the PTO must satisfy three requirements. First, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a

reference or to combine references. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Second, the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *Amgem, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1209, 18 U.S.P.Q.2d 1016, 1023 (Fed. Cir. 1991). Lastly, the prior art reference or combination of references must teach or suggest all the limitations of the claims. See *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).

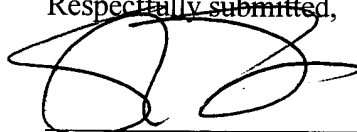
Applicants have amended claim 1 to recited that the coating is a water based coating. As previously discussed, *Horowitz et al.* does not teach or suggest the use of a water based coating. *Horowitz et al.* teaches a cutting using an epoxy resin in a solvent base. Additionally, the PTO states that the *Kessler* reference teaches a structural foam that can be polyvinyl chloride and that it would have been obvious to one of ordinary skill to replace the Noryl foam taught in *Horowitz et al.* with the PVC foam taught in *Kessler*. The PVC foam taught in *Kessler* is both rigid and posses a higher density than that of the present application. Applicants have amended the claims such that they now recited that the foam is "flexible". Thus, one of ordinary skill in the art would not combine a non-flexible foam taught in *Kessler* with the solvent based coating taught in *Horowitz et al.* to render obvious the claimed coated flexible foam having a water based coating. Thus, the combined art neither teaches nor suggests that which is claimed in the amended claims.

### CONCLUSION

Upon entry of the above Amendment, claims 1-14, and 31-39 remain pending in the present application. Applicants urge that the present application is now in a condition for

allowance and an early notice to such effect is earnestly solicited. However, if it is believed that any issues remain unresolved in the present application, Applicants request that Examiner contact the undersigned.

Respectfully submitted,



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Cheryl West



## APPENDIX

Replace the paragraph on page 5, lines 3-8, with the attached paragraph:

In greater detail, the low density foam substrate may be formed from formulations comprising any of the following: polyvinyl chloride, acrylo nitrile butadiene rubber, styrene [butadione] butadiene rubber, ethylene-propylene-diene rubber, polychloroprene, polyethylene, polypropylene or co-polymers of ethylene or propylene. The low density foam substrate typically has a density of up to about 10 lbs/ft.<sup>3</sup>

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1. (Amended) A coated low density polymeric foam comprising:  
a flexible, low density polymeric foam substrate having a water based coating, the coating comprising a prepolymer, a monomer, a catalyst and a graft initiator.
3. (Amended) The coated polymeric foam of claim 1, wherein the low density polymeric foam is formed from the group consisting of polyvinyl chloride, acrylo nitrile butadiene rubber, styrene [butadione] butadiene rubber, ethylene-propylene-diene rubber, polychloroprene, polyethylene, polypropylene, co-polymers of ethylene, co-polymers of propylene and combinations thereof.
31. (Amended) A coated polymeric foam comprising:  
a flexible, polymeric foam substrate having a coating, the coating comprising a water dispersible prepolymer, a monomer, a catalyst and a graft initiator.

33. (Amended) The coated polymeric foam of claim 31, wherein the polymeric foam is formed from the group consisting of polyvinyl chloride, acrylo nitrile butadiene rubber, styrene [butadione] butadiene rubber, ethylene-propylene-diene rubber, polychloroprene, polyethylene, polypropylene, co-polymers of ethylene, co-polymers of propylene and combinations thereof.

35. (Amended) The coated polymeric foam of claim 31, wherein the graft initiator is selected from the group consisting of ferrous ammonium sulfate and silver nitrate.